

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I in the reply filed on 4/19/10 is acknowledged. The examiner thanks the applicant for providing supports to the claimed limitations.

### ***Specification***

2. The following title is suggested: METHOD FOR MANUFACTURING A ROTARY MEMBER OF A TORQUE CONVERTER.

### ***Claim Objections***

3. Claim 13 is objected to as being a substantial duplicate of claim 5. Claim 5 and claim 13 are essentially duplicates of one another or else are so close in content that they both cover the same thing, despite a slight difference in wording. It is improper to have two claims which contain the same limitations and depend from the same claim 4, in the same application as one claim would be a substantial duplicate of the other claim.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Fallu et al (US 5,964,328) in view of Schultz (US 7,014,426).

Re claims 1-3: Fallu discloses fixing the driven plate to the turbine shell;

heating the turbine shell and the blades to fix the blades to the turbine shell by brazing (col. 3, lines 5-20), except for rapidly cooling the rotary member after heating the turbine shell; rapidly cooling the rotary member includes the rotary member being rapidly cooled immediately after the rotary member is cooled down to a certain temperature after heating the turbine shell and blades; and the brazing is performed by heating such that a temperature of the rotary member reaches at least a melting point of the brazing material used for brazing, and rapidly cooling the rotary member includes the rotary member being rapidly cooled when the temperature of the rotary member reaches an appropriate hardening temperature of the driven plate after heating the turbine shell and blades.

Schultz discloses rapidly cooling the rotary member after heating the turbine shell (col. 5, line 4); rapidly cooling the rotary member includes the rotary member being rapidly cooled immediately after the rotary member is cooled down to a certain temperature after heating the turbine shell and blades (col. 4, lines 66-67 and col. 5, line 1); and the brazing is performed by heating such that a temperature of the rotary member reaches at least a melting point of the brazing material used for brazing, and rapidly cooling the rotary member includes the rotary member being rapidly cooled when the temperature of the rotary member reaches an appropriate hardening temperature of the driven plate after heating the turbine shell and blades (col. 4, lines 1-65, col. 4, lines 66-67 and col. 5, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fallu by rapidly cooling the rotary member after heating the turbine shell; rapidly cooling the rotary member includes the rotary member being rapidly cooled immediately

after the rotary member is cooled down to a certain temperature after heating the turbine shell and blades; and the brazing is performed by heating such that a temperature of the rotary member reaches at least a melting point of the brazing material used for brazing, and rapidly cooling the rotary member includes the rotary member being rapidly cooled when the temperature of the rotary member reaches an appropriate hardening temperature of the driven plate after heating the turbine shell and blades, as taught by Schultz, for the purpose of improving the mechanical properties.

Re claim 4: Fallu and Schultz fail to disclose rapidly cooling the rotary member includes the rotary member being cooled down to the appropriate hardening temperature or a mechanical melting temperature while keeping the temperature distribution of the rotary member within 100 degrees Celsius.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rapidly cooling the rotary member includes the rotary member being cooled down to the appropriate hardening temperature or a mechanical melting temperature while keeping the temperature distribution of the rotary member within 100 degrees Celsius., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re aller*, 105 USPQ 233.

6. Claims 5, 7-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fallu et al (US 5,964,328)/Schultz (US 7,014,426) as applied to claims 1-4, 9-10 above, and further in view of Yamanaka et al (US 6,474,062) and Kirkwood et al (US 5,771,691).

Fallu/Schultz fail to disclose that the turbine shell and the blades are made of ultra low-carbon steel.

Yamanaka discloses that the turbine shell is made of low-carbon steel (claim 5).

Kirkwood discloses that the blades are made of low-carbon steel (col. 4, lines 52-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fallu/Schultz by making the turbine shell and the blades out of low-carbon steel, as taught by Yamanaka and Kirkwood, for the purpose of making the shell and the blades easier to braze.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide ultra low-carbon steel, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re aller*, 105 USPQ 233.

### ***Conclusion***

7. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional). Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

RC  
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